Reasonix®

REASONIX DS50 • PROFESSIONAL TRAINING COURSE

APPLIED DATA SCIENCE

From Raw Data to Evidence-Based Insight

NumPy • Pandas • Data Cleaning • Visualisation • Analytical Reporting

A 50-hour, practice-led pathway from raw datasets to structured analysis, clear visual evidence, and defensible insight using Python, NumPy, Pandas, Matplotlib, and Seaborn.

50	15 + 35	2
TOTAL TRAINING HOURS	THEORY + PRACTICAL HOURS	ANALYTICS PROJECTS

COURSE OVERVIEW

Reasonix DS50 is a focused, standalone programme for turning raw data into credible evidence and useful insight. Learners work in Jupyter with Python, NumPy, Pandas, Matplotlib, and Seaborn to inspect structure, clean and transform records, summarise distributions, visualise relationships, and communicate findings.

The emphasis is not on producing charts mechanically. Participants learn to question data quality, justify analytical choices, recognise limitations, and separate evidence-based conclusions from unsupported assumptions.

WHAT PARTICIPANTS WILL BE ABLE TO DO

- formulate focused analytical questions and identify the data required to answer them;
- load, inspect, and organise structured datasets in reproducible Jupyter workflows;
- use NumPy and Pandas for selection, filtering, grouping, aggregation, and transformation;
- detect and treat missing values, duplicates, inconsistent records, and potential outliers;
- apply descriptive statistics and exploratory analysis to reveal patterns and relationships;
- create accurate visualisations and communicate findings, uncertainty, and limitations clearly;
- build, document, and present portfolio-ready data analysis projects with practical recommendations.

THE 50-HOUR LEARNING PATH

Six connected modules, sequenced from analytical foundations to evidence-based project delivery.

1	**Data Science Foundations & Analytical Thinking** Questions, data types, evidence, workflow, reproducibility	5 H
2	**NumPy & Numerical Computing** Arrays, indexing, vectorisation, aggregation, numerical analysis	7 H
3	**Pandas & Structured Data Analysis** DataFrames, selection, filtering, grouping, merging, reshaping	10 H
4	**Data Cleaning, Quality & Preprocessing** Missing data, duplicates, types, inconsistencies, outliers	10 H
5	**Exploration, Visualisation & Insight** Distributions, relationships, Matplotlib, Seaborn, storytelling	10 H
6	**Applied Data Analysis Project & Reporting** Investigate, interpret, document, recommend, present	8 H

WHO SHOULD ATTEND

Students, graduates, researchers, analysts, employees, and professionals who need a rigorous, practical route into data-driven decision-making.

ENTRY REQUIREMENTS

Basic Python programming is required. Familiarity with spreadsheets is helpful; no prior Data Science or advanced statistics experience is required.

TRAINING EXPERIENCE

Focused explanations, live notebooks, guided laboratories, data-quality clinics, visualisation workshops, a guided case study, and a final project.